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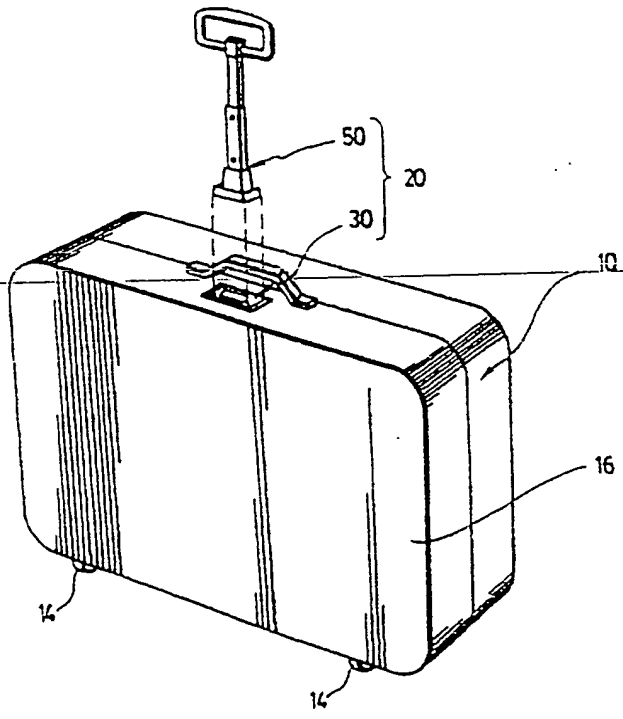
(54) Title: REMOVABLE HANDLE ASSEMBLY FOR LUGGAGE

(57) Abstract

The removable handle assembly (20) comprises a first member (30) to be connected to the luggage (10), such as briefcases, suitcases, catalog cases, attaché cases, trunks, either made of a rigid shell or a trim (16) with an inner frame (12). The assembly (20) further comprises a second member (50) provided with a hand-grip (60). The second member (50) is removably connectable to the first member (30) in a locking engagement. One advantage of such arrangement is that the second member (50) can be carried away or safely stored inside the luggage (10) when it is not needed, such as when the luggage (10) is in the trunk of a vehicle or left at the baggage check-in counter in an airport. Moreover, it has the advantages of being low in costs and low in weight. No outside frame pipe is in the way and no additional inside frame pipe retrieves space in the luggage (10).



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REMOVABLE HANDLE ASSEMBLY FOR LUGGAGE

Most luggage used by travellers is fitted with wheels for pulling them between locations, such as airports, train stations, etc. Flexible and removable straps have been used for some time for pulling luggage too heavy or too cumbersome to be transported by hand. However, these straps are not very practical since a luggage pulled with a strap is generally not very stable, even on a flat surface. Most present travellers prefer luggage provided with a built-in trolley comprising a collapsible handle. The latter is more convenient for large modern airports with very long concourses, especially for use as a carry-on luggage.

There are many models of luggage with a built-in trolley. Some have an outer frame while others have the frame within the luggage itself and hidden inside an interior pocket. In the first case, the outer frame pipes are subjected to important damages during manipulation. It also requires more space to store the luggage. As for luggage with the inside frame, the main drawback is that some vital inside space is lost. In all instances, the frame of the built-in trolley adds to weight of the luggage and to the manufacturing costs.

It is an object of the present invention to provide a removable handle assembly for replacing the built-in trolley and corresponding frame structure of conventional luggage while still enjoying the benefits of a trolley-like luggage.

According to the present invention, there is provided a removable handle assembly for luggage or the like, the assembly

comprising a first member to be connected to the luggage, a second member that comprises a hand-grip, and a connecting means for removably connecting the second member to the first member in a locking engagement.

A non restrictive description of a preferred embodiment will now be given with reference to the appended drawings.

FIG. 1 is a side perspective view of a removable handle assembly for luggage according to a preferred embodiment of the present invention, showing the second member when separated from the first member.

FIG. 2 is a side view of the assembly of FIG. 1, showing the second member connected to the first member.

FIG. 3 is an exploded view of the assembly of FIG. 1, showing the top of the first member and the bottom of the second member.

FIG. 4 is a cross-sectional view of the first and the second member according to line IV-IV of FIG. 2, showing the second member connected to the first member and the first member connected to the bearing plate.

FIG. 5 is a top view of a bearing plate in the luggage of FIG. 1.

FIG. 6 is a cross-sectional view of the first member according to line VI-VI of FIG. 4, showing the bearing plate and the frame of the luggage.

FIG. 7 is a cross-sectional view of the first and second members according to line VII-VII of FIG. 2, showing the first and the second member when connected together.

FIG. 8 is a front view of an example of a telescopic hand-grip according to a preferred embodiment of the present invention, shown in the retracted position.

FIG. 9 is a partial cross-sectional view of the hand-grip of FIG. 8, shown in the extended position.

FIG. 10 is an exploded view similar to FIG. 3, showing an optional latch.

FIG. 11 is a side view of the second member with a latch, as shown in FIG. 10.

The following is a list of the reference numerals, along with the names of the corresponding components, that are used in the appended drawings and in the description.

10	luggage
12	inner frame (of the luggage)
14	wheels (of the luggage)
16	trim (of the luggage)
18	bearing plate
20	removable handle assembly
30	first member
32	rectangular projecting part (of the first member)
34	slots
36	flanges (of the rectangular projecting part)
38	alignment hole
40	holes
42	fasteners
50	second member
52	base portion
54	flanged recess
54A	curved portions (of the recess)

54B straight portions (of the recess)
55 flanges
56 slots
58 alignment peg
60 collapsible hand-grip
62 closed loop
64 telescopic handle
66 sleeve
67 sliding inner element
68 locking knob
70 rivets
80 bosses
82 shallow bores
90 latch
92 slots (for the latch)

FIGS. 1 and 2 show an example of a luggage (10) on which the removable handle assembly (20) according to the present invention can be used. The term "luggage" within the meaning of the present description and the appended claims is a generic term for all items such as briefcases, suitcases, catalog cases, attaché cases, trunks or the like, either made of a rigid shell or a trim covering an inner frame. It is mainly directed towards luggage provided with wheels at the bottom. However, it is possible to use the present invention with a light luggage without wheels.

As shown in FIGS. 4 to 6, the luggage (10) shown in FIGS. 1 and 2 is of the type having a conventional inner rim-like frame (12) with corresponding reinforcing corners (not shown). Small bottom wheels (14) are connected to the lower portion of

the frame (12) and a trim (16) covers what defines the inner compartment. Alternatively, the luggage may have an outer rigid shell with or without a frame.

According to the present invention, and as shown in the drawings, the removable handle assembly (20) comprises a first member (30) to be connected to the luggage (10), a second member (50) that comprises a hand-grip (60), and a connecting means for removably connecting the second member (50) to the first member (30) in a locking engagement. One advantage of such arrangement is that the second member (50) can be carried away or safely stored inside the luggage (10) when it is not needed, such as when the luggage (10) is in the trunk of a vehicle or left at the baggage check-in counter in an airport. Moreover, it has the advantages of being low in costs and low in weight. No outside frame pipe is in the way and no additional inside frame pipe retrieves space inside the luggage.

Another interesting advantage of the present invention is that the luggage (10) may be pulled sidewards, as shown in FIG. 2, instead of being pulled longitudinally, as done hitherto with conventional straps. The luggage (10) is more stable when pulled sidewards. Yet, this is very useful for catalog cases, which are small rectangular suitcases for transporting bulky documents and often used by lawyers or sales representatives. Some catalog cases are provided with wheels to haul them whenever they are too heavy to be lifted and transported by hand. A strap or a built-in handle is usually provided on the side for longitudinal transportation and wheels are located at the opposite side so that the length of the

catalog case reduces the required length of the strap or of the handle. However, and as aforesaid, this conventional arrangement does not make the catalog case very stable when pulled. To resolve this problem, one can use the present invention with the telescopic hand-grip and set the wheels so that the catalog case be pulled sidewards, thereby achieving a more stable behavior.

The first member (30) is preferably a small and rigid flat plastic piece that is to be connected to the surface of the luggage (10). Other materials can also be used as well. Alternatively, it is possible to mold the first member (30) so that it be integrated on the surface of a luggage having a rigid outer shell. Another possibility is to weld or glue the first member (30) directly on the surface of a luggage.

A piece of fabric (not shown) may be provided for covering the first member (30) when the second member (50) is not connected to it.

The connection between the first member (30) and the luggage (10) may be achieved in various ways. In the preferred embodiment, the first member (30) comprises a plurality of holes (40) for receiving fasteners (42), such as screws or rivets, that are used to connect the first member (30) to a bearing plate (18) inside the luggage (10). The holes (40) of the first member (30) may be chamfered to hide the head of the fasteners (42). The bearing plate (18) is rigidly connected on the side of the inner frame (12) of the luggage (10). The holes of the bearing plate (18) are in registry with the holes (40) of the first member (30). Of course, holes are also provided

through the trim or the rigid shell for the insertion of the fasteners (42). It can also be a portion of the frame (12) itself. The bearing plate (18) is used, for instance, whenever the frame (12) is not large enough to accommodate the first member (30), if the conventional handle of the luggage (10) is in the way or if the first member (30) has to be located close to the edge of the luggage (10) and that the frame (12) is too far from it.

The second member (50) may be divided in two portions: a rigid base portion (52), made for example of plastic, that is to be connected to the first member (30), and a hand-grip (60), which is preferably rigid and collapsible. The base portion (52) and the hand-grip (60) are either connected to each other or molded together. In the preferred embodiment, as shown in FIGS. 7 and 8, the base portion (52) and the hand-grip (60) are two parts manufactured separately. They are subsequently connected together by means of rivets (70).

As aforesaid, the hand-grip (60) is preferably collapsible. However, it can be made of only one piece (not shown). In the preferred embodiment, and as best shown in FIGS. 7 and 8, the hand-grip (60) ends with a closed loop (62) made for example of a rigid plastic. Alternatively, it may end with only a straight or curved bar (not shown) instead of the closed loop (62).

The telescopic handle (64) may comprise a sleeve (66) and a sliding inner element (67) made for example of aluminum. The user may choose between a first and a second position by pressing a locking knob (68) and moving the inner element (67)

to the desired position. Of course, other kinds of telescopic handles and materials may be used instead of the one shown and described herein.

The connecting means is used for removably connecting the second member (50) to the first member (30) in a locking engagement, which means that the first (30) and the second member (50) are attached together so that the luggage may be pulled or otherwise moved by one hand of the user. This may be achieved by various arrangements. In the preferred embodiment, this is done by inserting the second member (50) on the first member (30) and then pivoting the second member (50) for half a turn to engage parts that interconnectably cooperate. Although they are not shown in the drawings, various other arrangements are possible for removably connecting the second member (50) to the first member (30) in a locking engagement. One can be the lateral sliding on the second plate (30) in opposite and parallel guides extending on the first member (30). Another possibility is to screw a threaded portion projecting under the second member (50), or alternatively from the first member (30), to a threaded bore in the opposite member. A further possibility is to have magnets or pins with tabs to removably lock the members together.

FIG. 3 shows the connecting means according to the illustrated preferred embodiment of the present invention. As aforesaid, the connection is done by inserting the second member (50) on the first member (30) and then pivoting the second member (50) for half a turn to engage parts that interconnectably cooperate. To do so, the first member (30) comprises a rectangular projecting part (32) with rounded ends

and projecting from the first member (30) of about 5 mm. Two opposite and slightly offset slots (34) are respectfully juxtaposed to the ends of the rectangular projecting part (32). Each slot (34) forms a flange (36) with the corresponding end of the rectangular projecting part (32), as best shown in FIG. 7.

FIG. 3 also shows the bottom of the second member (50), more particularly of the base portion (52). It comprises a flanged recess (54) that is adapted to receive the rectangular projecting part (32) of the first member (30). Of course, one can choose to provide the rectangular projecting part (32) on the second member (50) and the recess (54) on the first member (30).

The recess (54) of the preferred embodiment has a particular shape. It is provided with two opposite curved portions (54A) and two opposite straight portions (54B). The bottom of the recess (54) is flat and its depth is equivalent to the height of the rectangular projecting part (32). The recess (54) is said to be flanged because it is provided with two opposite flanges (55), both slightly offset with reference to a longitudinal axis, and projecting inwardly from a corresponding curved portion (54A). Slots (56) are respectfully provided under one corresponding flange (55).

In use, the second member (50) is inserted over the first member (30) so that the flanges (36) of the rectangular projecting part (32) be juxtaposed to a corresponding straight portion (54B) of the recess (54). An alignment peg (58) projecting outwardly from the center of the recess (54) may be

provided to help the user with the alignment. The peg (58) is adapted to fit in a corresponding alignment hole (38) on the top of the rectangular projecting part (32). Of course, the position of the peg (58) and the corresponding hole (38) may be inverted. The connection of the first (30) and the second member (50) is achieved by rotating the second member (50) for half a turn, for example in the clockwise direction. This movement brings each flange (36) over a respective flange (55) of the recess (54) in a sliding relationship. It is possible to design the parts with a slight interfering tolerance to generate a frictional resistance when rotating the second member (50). The slots (34,56) allow the flanges (36,55) to slightly deform outwardly and give way to the other corresponding flange. A full locking engagement is achieved when both corresponding flanges (36,54) are aligned with each other.

Preferably, one side of the flanges (36) of the first member (30) is closed and forms a stopper so that the side end of one corresponding flange (55) in the second member (50) abuts the stopper when the first (30) and the second member (50) are fully locked together. Of course, the stoppers on the first member (30) are diametrically opposite.

The connecting arrangement of the preferred embodiment is further enhanced by a plurality of small bosses (80) that slide into corresponding shallow bores (82) when the first (30) and the second member (50) are fully locked together. When the second member (50) is turned relatively quickly in position, a click is produced, thereby indicating to the user that the full locking engagement is achieved.

CLAIMS

1. A removable handle assembly (20) for luggage (10) or the like, the assembly (20) being characterized in that it comprises:

a first member (30) to be connected to the luggage (10);

a second member (50), the second member (50) comprising a hand-grip (60); and

a connecting means for removably connecting the second member (50) to the first member (30) in a locking engagement.

2. A removable handle assembly (20) according to claim 1, characterized in that the hand-grip (60) comprises a rigid telescopic portion (60).

3. A removable handle assembly (20) according to claim 2, characterized in that the hand-grip (60) comprises a closed loop (62) at a free end thereof.

4. A removable handle assembly (20) according to claim 1, 2 or 3, characterized in that the connecting means comprises a pivot engagement means for locking the first (30) and the second member (50) by adjoining the second member (50) with the first member (30) and pivoting the second member (50).

5. A removable handle assembly (20) according to claim 4, characterized in that the pivot engagement means comprises:

a projecting part (32) outwardly projecting from either the first (30) or the second member (50), the

projecting part (32) comprising at least two flanges (36); and

a recess (54) located in the other of the first (30) or the second member (50) to receive the projecting part (32) when the first (30) and the second member (50) are adjoined, the recess (54) comprising at least two flanges (55), each corresponding to one flange (36) of the projecting part (32) to imbricate therewith upon pivoting of the second member (50) with reference to the first member (30).

6. A removable handle assembly (20) according to claim 5, characterized in that a slot (34,56) is provided under each flange (36,55) of the first (30) and the second member (50) for allowing the opposite corresponding flange (36,55) to deform outwardly when the first (30) and the second member (50) are in locking engagement.

7. A removable handle assembly (20) according to claim 5 or 6, characterized in that it further comprises an alignment peg (58) projecting from either the first (30) or the second member (50) and insertable into a corresponding alignment hole (38) provided in the other of the first (30) or the second member (50).

8. A removable handle assembly (20) according to claim 1, 2, 3, 4, 5, 6 or 7, characterized in that it further comprises a plurality of bosses (80) projecting either from the first (30) or the second member (50) and insertable into shallow bores (82), provided on the other of the first (30) or the second

member (50), when the first (30) and the second member (50) are in locking engagement.

9. A removable handle assembly (20) according to claim 1, characterized in that it further comprises a bearing plate (18) connectable on a side of a frame (12) of the luggage (10) for receiving the first member (30).

10. A removable handle assembly (20) according to claim 9, characterized in that the first member (30) comprises a plurality of holes (40) in registry with corresponding holes of the bearing plate (18) for connecting the first member (30) to the bearing plate (18) by means of fasteners (42).

11. A removable handle assembly (20) according to claim 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10, characterized in that it further comprises a latch (90) connected to either the first (30) or the second member (50), the latch (90) having one end insertable into a slot (92) provided on the other of the first (30) or the second member (50), when the first (30) and the second member (50) are in locking engagement.

12. A removable handle assembly (20) for luggage (10) or the like, the assembly (20) characterized in that it comprises:

a first rigid member (30) to be connected to the luggage (10);

a second rigid member (50), the second member (50) comprising a hand-grip (60);

an alignment peg (58) projecting from either the first (30) or the second member (50) and insertable into

a corresponding alignment hole (38) provided in the other of the first (30) or the second member (50);

a plurality of bosses (80) projecting either from the first (30) or the second member (50) and insertable into shallow bores (82), provided on the other of the first (30) or the second member (50), when the first (30) and the second member (50) are in a locking engagement;

a connecting means for removably connecting the second member (50) to the first member (30) in a pivot locking engagement, the first (30) and the second member (50) being in locking engagement by adjoining the second member (50) with the first member (30) and pivoting the second member (50), the connecting means comprising:

a projecting part (32) outwardly projecting from either the first (30) or the second member (50), the projecting part (32) comprising at least two flanges (36); and

a recess (54) located in the other of the first (30) or the second member (50) to receive the projecting part (32) when the first (30) and the second member (50) are adjoined, the recess (54) comprising at least two flanges (55), each corresponding to one flange (36) of the projecting part (32) to imbricate therewith upon pivoting of the second member (50) with reference to the first member (30).

13. A removable handle assembly (20) according to claim 12, characterized in that the hand-grip (60) comprises a telescopic portion (60).

14. A removable handle assembly (20) according to claim 13, characterized in that the hand-grip (60) comprises a closed loop (62) at a free end thereof.

15. A removable handle assembly (20) according to claim 12, 13 or 14, characterized in that a slot (34,56) is provided under each flange (36,55) of the first (30) and the second member (50) for allowing the opposite corresponding flange (36,55) to deform outwardly when the first (30) and the second member (50) are in locking engagement.

16. A removable handle assembly (20) according to claim 12, 13, 14 or 15, characterized in that it further comprises a bearing plate (18) connectable on a side of a frame (12) of the luggage (10) for receiving the first member (30).

17. A removable handle assembly (20) according to claim 16, characterized in that the first member (30) comprises a plurality of holes (40) in registry with corresponding holes of the bearing plate (18) for connecting the first member (30) to the bearing plate (18) by means of fasteners (42).

18. A removable handle assembly (20) according to claim 12, 13, 14, 15, 16 or 17, characterized in that it further comprises a latch (90) connected to either the first (30) or the second member (50), the latch (90) having one end insertable into a slot (92) provided on the other of the first

(30) or the second member (50), when the first (30) and the second member (50) are in locking engagement.

AMENDED CLAIMS
[received by the International Bureau on 10 November 1997 (10.11.97); original claims 1-18 replaced by new claims 1-8 (3 pages)]

1. A removable handle assembly (20) for luggage (10), the assembly (20) comprising:

a first rigid member (30) to be connected to the luggage (10);

a second rigid member (50) comprising a hand-grip (60); and

a connecting means for removably connecting the second member (50) to the first member (30);

the assembly (20) being characterized in that the connecting means comprises:

a projecting part (32) outwardly projecting from one of the two rigid members (30, 50), the projecting part (32) comprising at least two flanges (36);

a socket (54) located in the other of the two rigid members (30,50) to receive the projecting part (32) when the first (30) and the second member (50) are adjoined, the socket (54) comprising at least two flanges (55), each corresponding to one flange (36) of the projecting part (32) to imbricate therewith in a locking engagement upon pivoting the second member (50), around a pivot axis, with reference to the first member (30); and

an alignment peg (58) projecting from one of the two rigid members (30,50) and insertable into a corresponding alignment hole (38) provided in the other of the two rigid members (30, 50), the alignment peg (58) and

the alignment hole (38) being coaxial with the pivot axis.

2. A removable handle assembly (20) according to claim 1, characterized in that the assembly (20) further comprises a plurality of bosses (80) projecting from one of the two rigid members (30,50) and insertable into shallow bores(82),provided on the other of the two rigid members (30, 50), when the first (30) and the second member (50) are in locking engagement. .

3. A removable handle assembly (20) according to claim 1 or 2, characterized in that the hand-grip (60) comprises a rigid telescopic portion (60).

4. A removable handle assembly (20) according to claim 3, characterized in that the hand-grip (60) comprises a closed loop (62) at a free end thereof.

5. A removable handle assembly (20) according to claim 1, 2, 3 or 4, characterized in that a slot (34,56) is provided under each flange (36,55) of the first (30) and the second member (50) for allowing the opposite corresponding flange (36,55) to deform outwardly when the first (30) and the second member (50) are in locking engagement.

6. A removable handle assembly (20) according to claim 1, 2, 3, 4 or 5, characterized in that the assembly (20) further comprises a bearing plate (18) connectable on a side of a frame (12) of the luggage (10) for receiving the first member (30).

7. A removable handle assembly (20) according to claim 6,

characterized in that the first member (30) comprises a plurality of holes (40) in registry with corresponding holes of the bearing plate (18) for connecting the first member (30) to the bearing plate (18) by means of fasteners (42).

8. A removable handle assembly (20) according to any one of claims 1 to 7, characterized in that it further comprises a latch (90) connected to one of the two rigid members (30, 50), the latch (90) having one end insertable into a slot (92) provided on the other of the two rigid members (30,50) when the first (30) and the second member (50) are in locking engagement.

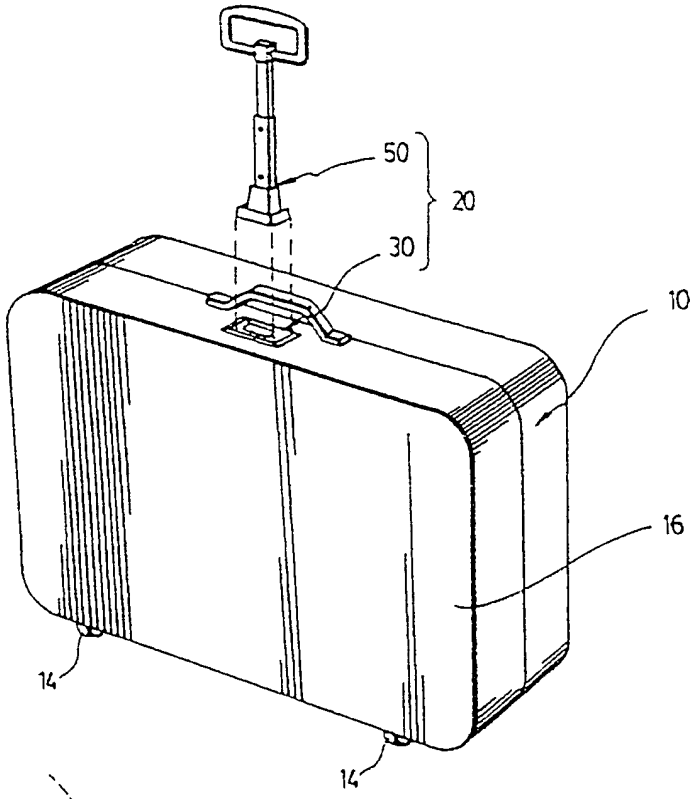

FIG. 1

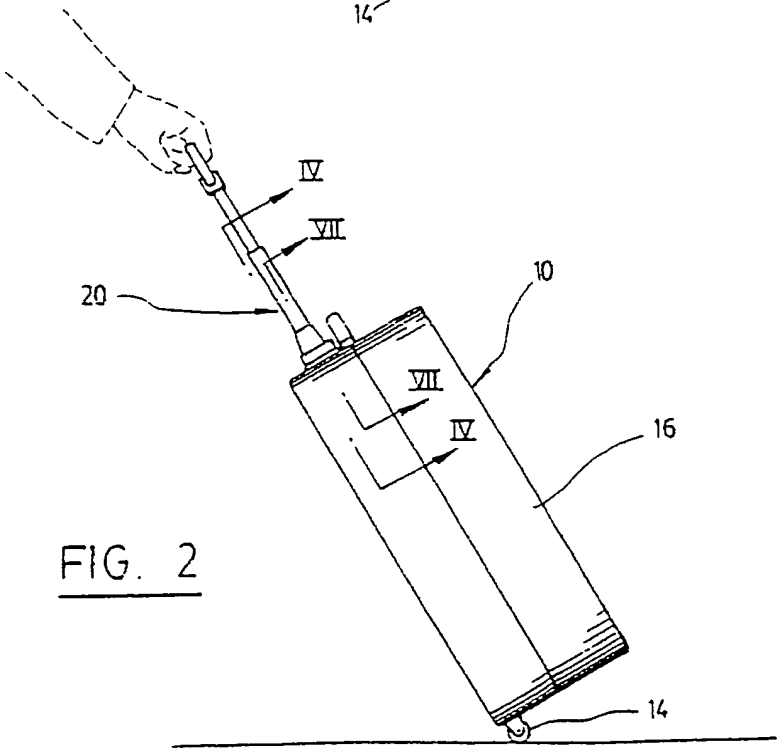

FIG. 2

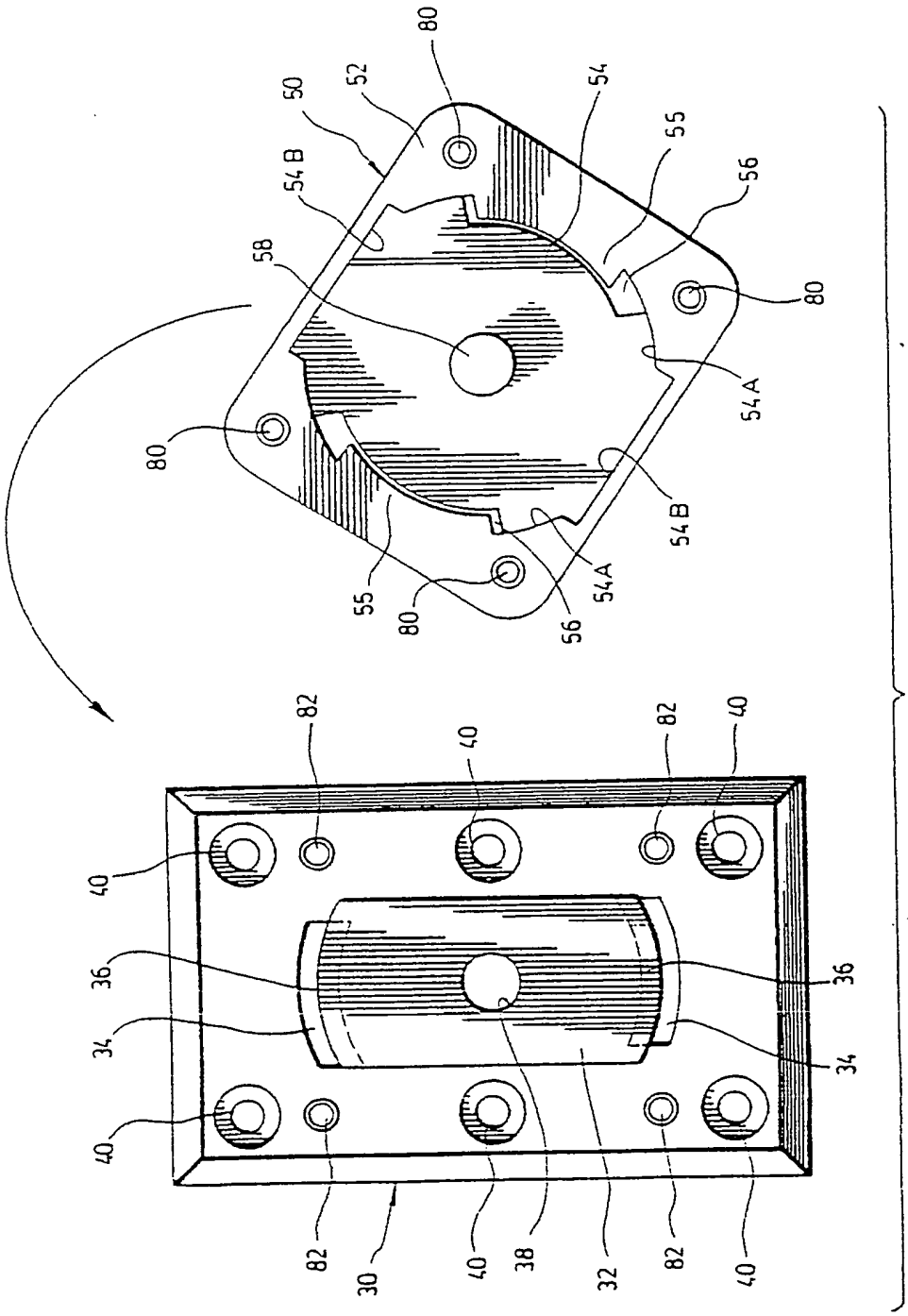
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FIG. 3

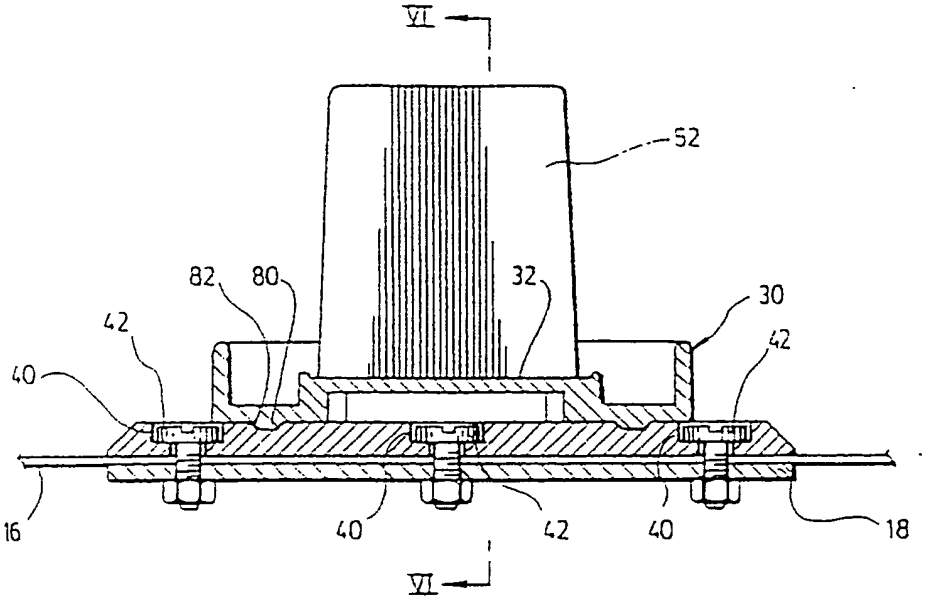

FIG. 4

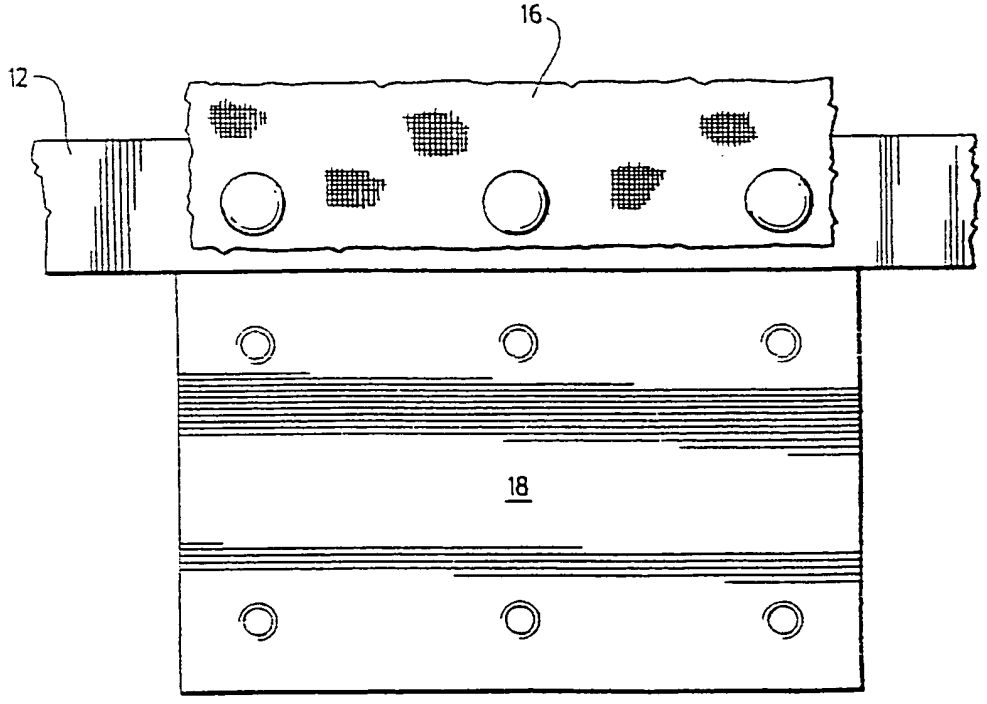

FIG. 5

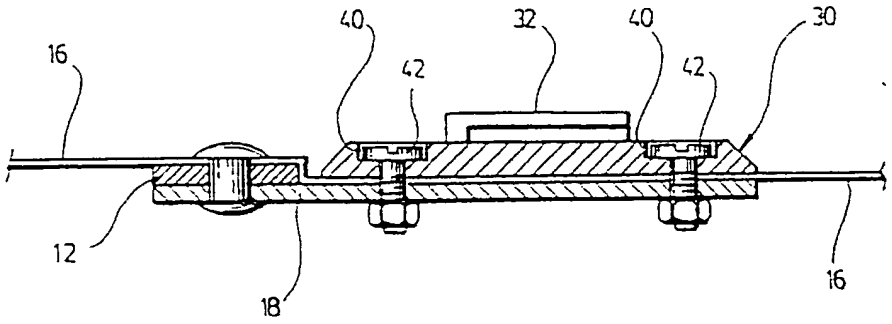

FIG. 6

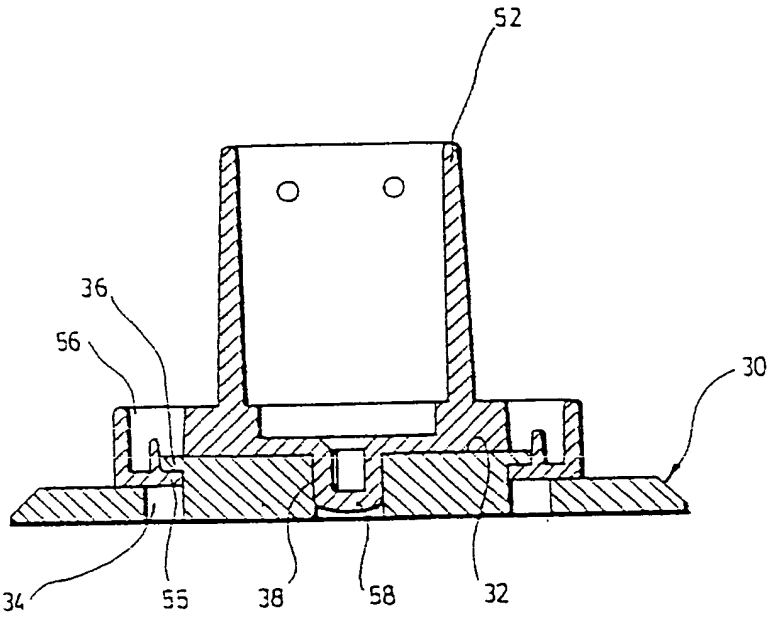

FIG. 7

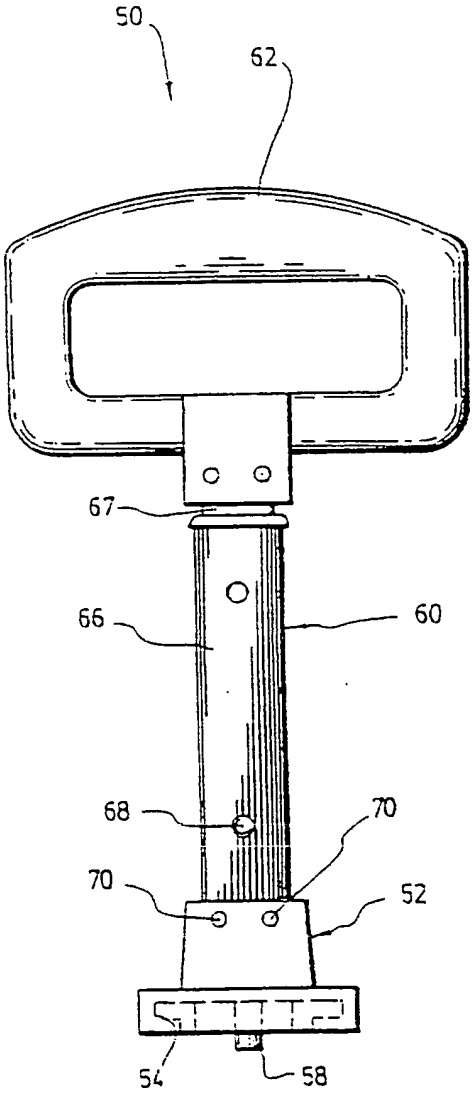

FIG. 8

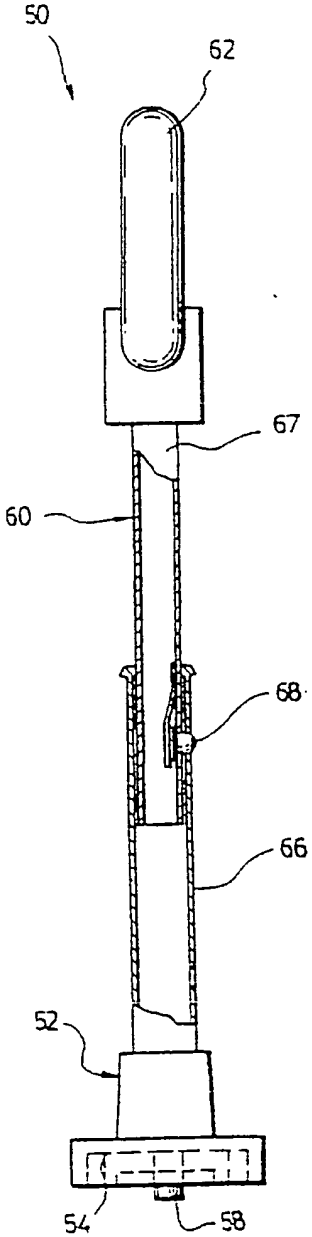

FIG. 9

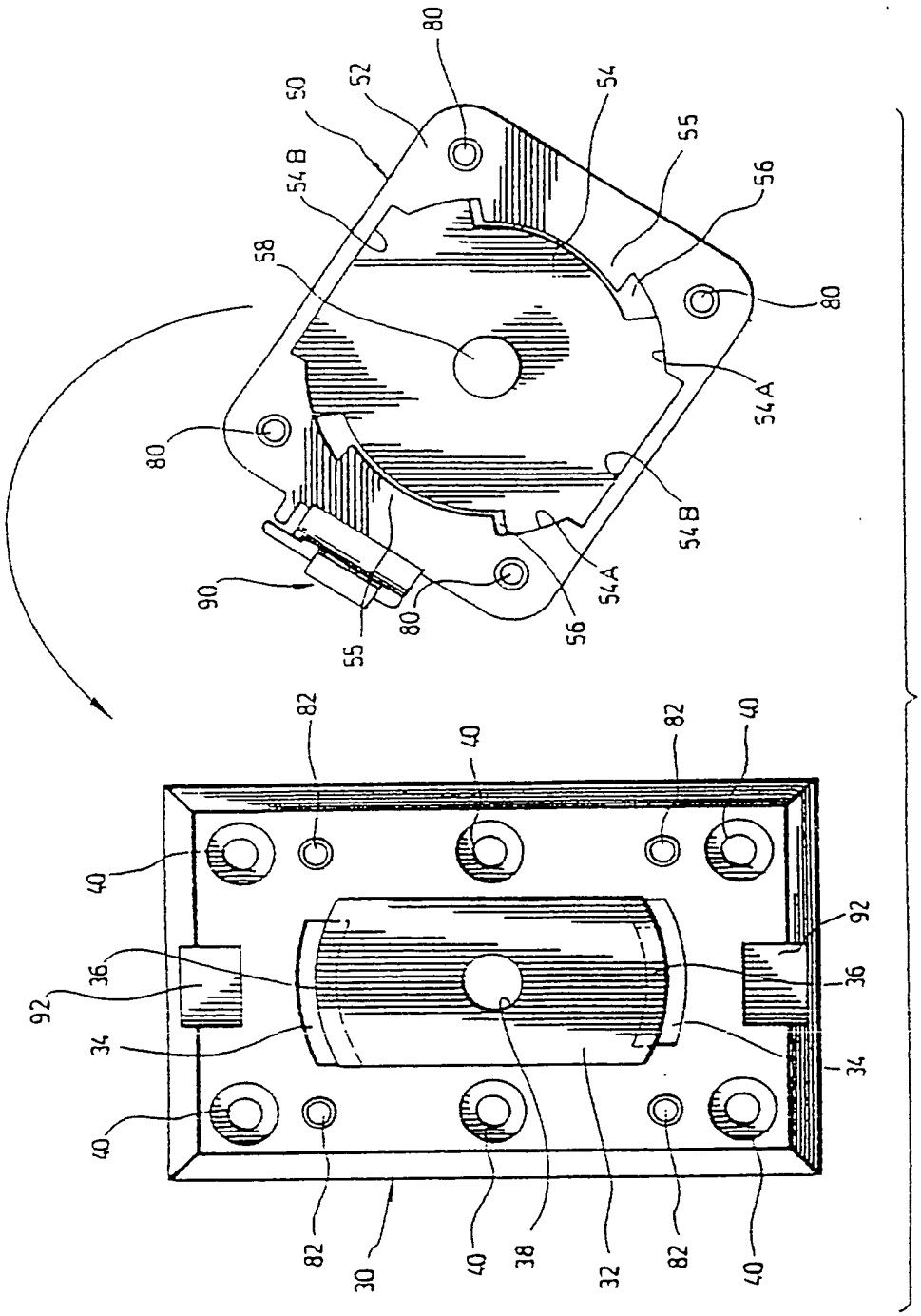
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FIG. 10

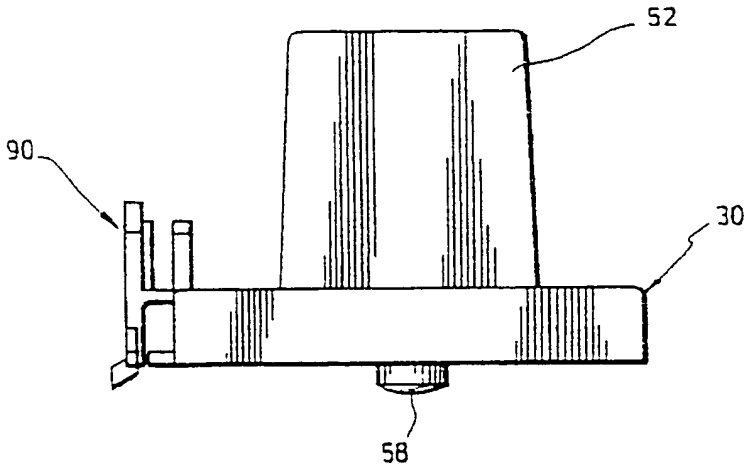

FIG. 11

INTERNATIONAL SEARCH REPORT

Int. ional Application No
PCT/CA 97/00327

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 A45C13/22 A45C13/26 A45C5/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 A45C B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 1 616 632 A (MASTRONTONIO) 8 February 1927 see the whole document	1 12
X A	US 3 484 894 A (FLETCHER) 23 December 1969 see the whole document	1 11
X A	US 5 042 676 A (GOHLKE) 27 August 1991 see the whole document	1 12
A	US 2 537 750 A (GRETSCHEL) 9 January 1951 see the whole document	1,4,5
A	AU 58192 80 A (NUTTER) 13 November 1980 see page 8, line 3 - page 9, line 6; figure 1	1

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
12 August 1997	27 -08- 1997

L van Velzen-Péron

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+ 31-70) 340-2040, Tx. 31 651 epo nl, Fax (+ 31-70) 340-3016	Sigwalt, C

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INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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